

(12) INTERNATIONAL APPLICATION PUBLISHED IN ACCORDANCE WITH THE PATENT CO-OPERATION TREATY (PCT)

(19) World organization for intellectual property
International office



(43) International publication date
April 22, 2004

PCT

(10) International publication number
WO 2004/033741 A1

| | | |
|---|---|--|
| <p>(51) International patent classification⁷: 38/50, A63B 53/04, C21D 8/00, 6/02</p> <p>(21) International Application number: PCT/EP2003/005 210</p> <p>(22) International Application Date: May 17, 2003</p> <p>(25) Original language: German</p> <p>(26) Publication language: German</p> <p>(30) Priority information: September 12, 102 42 322.9 2002 DE</p> <p>(71) Applicant: (for all assignee countries with the exception of US): VACUUMSCHMELZE GMBH & CO. KG [DE/DE]; Grüner Weg 37, 63450 Hanau (DE)</p> <p>(72) Inventor; and</p> <p>(75) Inventor /Applicant (only for US): WEBER, Hartwin</p> | <p>C22C 38/00,</p> <p>(74) Attorney: SCHMUCKERMAIER, Bernhard; Westphal, Musgnug & Partner, Mozartstrasse 8, 80336 Munich (DE).</p> <p>(81) Assignee countries (national): JP, US</p> <p>(84) Assignee countries (regional): European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR).</p> <p>Published: - with international research report</p> <p>For the explanation of the two-letter codes and the other abbreviations refer to the explanation ("Guidance Notes on Codes and Abbreviations") in the beginning of every regular issue of the PCT-Gazette.</p> | <p>[DE/DE]; Westbahnhofstrasse 28, 63450 Hanau (DE), DÖRING, Waldemar [DE/DE]; Lindenstrasse 1, 63594 Hasselroth (DE). FACKELMANN, Dominik [DE/DE]; Am Barbarossabr. 19, 63694 Limeshain (DE).</p> |
|---|---|--|

WO 2004/033741 A1 (54) Title of the invention: MARAGING STEEL GOLF CLUB HEAD

(57) **Abstract:** The invention concerns a golf club head whereof the strike surface zone at least is made of maraging steel essentially consisting of 6.0 to 9.0 wt. % of nickel, 11.0 to 15.0 wt. % of chromium, 0.1 to 0.3 wt. % of titanium, 0.2 to 0.3 wt. % of beryllium, the rest being iron and impurities resulting from production, the temperature of the martensitic phase being $M_s \geq 130^\circ\text{C}$ and the ferrite content being adjusted at $^\circ\text{Ferrite} < 3\%$. Said maraging steel typically exhibits tensile strength R_m of about 2800 MPa, yield strength $R_{p0.2}$ of about 2600 MPa, Vickers hardness > 800 and alternating flexure strength σ_{bw} of about 1550 MPa.